

### **REMARKS**

In the office action dated June 22, 2009, the examiner rejected claims 12-24 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement; claims 12-24 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement; and claims 12-24 under 35 U.S.C. 112, second paragraph, as being indefinite. The examiner also objected to the disclosure under 37 C.F.R. 1.71 for allegedly being “incomprehensible.”

Prior to the present amendment, claims 12-24 were pending. Applicants have amended claims 12 and 19 and added new claim 25. Accordingly, claims 12-25 are presently pending.

Support for amendments to the claims can be found in the specification as filed on page 2, line 25 to page 3, line 2 and the example on page 10. Accordingly, no new matter has been added by the amendments to the claims.

Applicants have also amended the specification on page 10 in order to correct the spelling of the word phenol. The word was previously spelled phonetically by applicants as “fenol.” No new matter has been added by the amendments to the specification.

### **THE INVENTION**

A method for extracting a fermentation product selected from the group consisting of 4-hydroxybenzoic acid, benzaldehyde, a catechol, benzylalcohol, cinnamic acid, phenol, or a mixture thereof, from a fermentation liquid by (i) conducting a fermentation using a biocatalyst to form a fermentation product in a fermentation liquid; (ii) contacting the fermentation liquid with a solvent-impregnated porous carrier, wherein the solvent-impregnated carrier has a density different from the fermentation liquid and the fermentation product is sorbed by the solvent-impregnated carrier; and (iii) separating the fermentation product from the solvent-impregnated porous carrier, wherein the fermentation product is 4-hydroxybenzoic acid, benzaldehyde, a catechol, benzylalcohol, cinnamic acid, phenol, or a mixture thereof is presently claimed.

### **ELECTION OF SPECIES REQUIREMENT**

In the office action dated June 22, 2009, the examiner questioned whether the inventors had possession of the claimed invention for the election of species “para hydroxystyrene” at the time the invention was filed. See page 3, paragraph B of the office action. The examiner also maintained that he was unable to conduct a search of the prior art in view of the scope of the claimed subject matter. See page 10, the paragraph numbered “6.” and page 11, the paragraph numbered “7.” of the office action.

In the present response, applicants have amended the main independent claim without prejudice to remove the word “hydrocarbon” and to specify that the fermentation product is 4-hydroxybenzoic acid, benzaldehyde, a catechol, benzylalcohol, cinnamic acid, phenol, or a mixture thereof. As discussed above, these compounds are supported in the specification as filed on page 2, line 25 to page 3, line 2 and the example on page 10.

Accordingly, applicants would like to revise the election of species made in the Response to the Office Communication Concerning a Restriction Requirement, which was filed on December 4, 2008. Applicants would now like to elect without traverse **4-hydroxybenzoic acid** from the “hydrocarbons” listed in the examiner’s Group A. The remaining elected species remain the same, i.e., B. 1) polystyrene; B. 2) aluminosilicates; B. 3) I (polymeric), e.g., polystyrene; and C. a) *Pseudomonas putida*.

### **35 U.S.C. 112, FIRST PARAGRAPH, REJECTION**

Claims 12-24 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement and the written description requirement. According to the examiner, the “claim(s) contains subject matter which was not described in the specification in

such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention in view of the preamble which is drawn to the ‘extracting fermentation hydrocarbon-containing product’ and ‘separating the hydrocarbon-containing product’, however the specification fails to teach the production of a ‘hydrocarbon’ by the claimed process (es).”

Regarding the written description requirement, the examiner states “[t]he claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the election of species ‘para hydroxystyrene.’”

As discussed above, applicants have amended the main independent claim to specify that the fermentation product is 4-hydroxybenzoic acid, benzaldehyde, a catechol, benzylalcohol, cinnamic acid, phenol, or a mixture thereof. The word “hydrocarbon” has been deleted from the claims. Accordingly, the examiner’s 35 U.S.C. 112, first paragraph, enablement and written description rejections have been rendered moot.

### **35 U.S.C. 112, SECOND PARAGRAPH, REJECTION**

Claims 12-24 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The examiner points out that the examples of “hydrocarbons” in the specification include 4-hydroxybenzoic acid, benzaldehyde, catechols (*e.g.* 3-methylcatechol), benzylalcohol, cinnamic acid, etc. The examiner cites Hackh’s Chemical Dictionary as well as Wikipedia for a hydrocarbon being a compound containing only carbon and hydrogen atoms. The examiner further states that the “language of the claims must make it clear what subject matter the claims encompass to adequately delineate their ‘metes and bounds.’” See page 8 of the office action.

Applicants' amendment of the claims to remove the word hydrocarbon renders the examiner's rejection moot.

**OBJECTIONS UNDER 37 C.F.R. 1.71**

The examiner has also objected to the disclosure under 37 C.F.R. 1.71 as being "so incomprehensible as to preclude a reasonable search of the prior art by the examiner." The examiner cites the term "hydrocarbon" as being not within the scope of the term "hydrocarbon" as known in the art.

As discussed above, applicants have amended the claims to remove the word "hydrocarbon." Accordingly, the examiner's objection under 37 C.F.R. 1.71 has been rendered moot.

Applicants respectfully submit that the application is now in proper form for allowance, which action is earnestly solicited. If resolution of any remaining issue is required prior to allowance of the application, it is respectfully requested that the examiner contact applicants' attorney at the telephone number provided below.

Respectfully submitted,

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